



**City of Manchester  
Fire Department**

100 Merrimack Street  
Manchester, New Hampshire 03101-2208  
(603) 669-2256 – BUSINESS  
(603) 669-7707 – FAX



Joseph P. Kane  
Chief of Department

## **Sprinkler System Installation**

### **New Fee Schedule With Rules and Regulations**

The following pages detail recent changes to the fee schedule for the installation of Sprinkler Systems in the City of Manchester. On Tuesday 16 April 2002, the Board of Mayor and Aldermen of the City of Manchester amended Section 92 "Fire Prevention Code" of the City of Manchester changing the fee structure for inspections of fire alarm and sprinkler systems. These changes increase the dollar amounts for initial inspections and re-inspections of the aforementioned systems.

Following please find:

Fee Schedule as amended on 16 April 2002

Requirements for permits and inspections

Sprinkler and Standpipe Systems

Administrative Rules

System Requirements

Supervision of Sprinkler Systems

Testing and Inspection.

**Please see PERMIT section on this Web Site for a Sprinkler  
Application**



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Joseph P. Kane  
Chief of Department

22 April, 2002

Dear Sprinkler Contractor,

On Tuesday 16 April 2002, the Board of Mayor and Aldermen of the City of Manchester amended Section 92 "Fire Prevention Code" of the City Of Manchester changing the fee structure for inspections of fire alarm and sprinkler systems. These changes increase the dollar amounts for initial inspections and re-inspections of the aforementioned systems. As a result of these changes and in order to maintain consistency with existing ordinances, the following fee structure will be imposed for all fire alarm and sprinkler system installations: **(Please note that item "B" will directly affect the sprinkler trades)**

- A. The review of an alarm system plan shall be performed by the Fire Department at a charge of \$1.00 per device with the minimum fee being \$50.00.
- B. The review of a sprinkler plan shall be performed by the Fire Department at a charge of \$1.00 per device with a minimum fee being \$50.00. (Devices included in this fee shall include, sprinkler heads, backflow preventers, post indicator valves, OS&Y valves, inspectors test valves and fire department connections)**
- C. The initial inspection of an installed fire alarm system shall be performed by the Fire Department at a charge of \$50.00 per person per hour required with the minimum fee being \$100.00
- D. Re-inspections of installed alarm systems shall be billed at a rate of \$150.00 per person per hour with the minimum charge of \$300.00.

Included for your examination are any pertinent changes made to the Manchester Fire Department Fire Alarm Rules and Regulations made within the last year.

**Permits and Inspections shall be required for all of the following:**

- All new installations without exception.
- Any repair work or modification to an existing sprinkler system. This includes but is not limited to; arm-overs, head replacements and moving or relocating sprinkleheads. Any addition to, or expansion of existing systems shall require submission of hydraulic calculations.
- Any repair or modification to the system components and hardware as listed in Chapter 3 of NFPA 13 Installation of Sprinkler Systems 1999 ed.
- Any installation of clean agent systems, UL 200 and UL 300 systems.

**Alarms generated and damage to the municipal loop caused by Contractors as a result of work performed without benefit of a permit will be assessed to the culpable parties.**

In addition to the requirements mentioned above, the following Manchester Fire Department Rules and Regulations shall apply:

#### **Sprinkler and Standpipe Systems**

##### **Administrative Rules**

The installer shall file an application with the Manchester fire Department with a filing fee of fifty (\$50.00) dollars. *(Please see new fee schedule amended on 16 April, 2002.)*

All sprinkler systems installed in the City of Manchester shall have a plumbing permit from the City of Manchester Building Department.

A set of working plans and hydraulic calculations shall be submitted to the Manchester Fire Department Fire Prevention Bureau prior to the installation of the sprinkler or standpipe system. Working plans shall be drawn to an indicated scale and include **a11** items detailed in the most recent edition of NFPA 13. Hydraulic calculations shall be prepared on form sheets that include a summary sheet, detailed information sheets, and a graph sheet. All hydraulic calculations sheets shall include all items detailed in the most recent edition of NFPA 13.

All plans submitted must be stamped and signed by a NICET Level III technician or higher, and installed by personnel approved with the Manchester Fire Department Fire Prevention Bureau.

All sprinkler systems installed in the City of Manchester must be installed to meet the criteria put forth NFPA 13, 13D, and 13R respectively.

All buildings with a sprinkler or standpipe system must have a fire alarm system connected via master box or approved central station alarm.

### System Requirements

The post indicator valve (PIV) or Wall Mounted Indicator Valve and Fire Department Connection shall be located in the front of the building within twenty five (25) feet of fire truck access and shown on the site plan. These devices shall be clearly visible from the street and be installed on **private property**.

A post or wall indicating valve with tamper switch shall be provided on all installations.

The Manchester Fire Department Connection shall be supplied on all sprinkler and standpipe installations. These connections shall consist of a single 2 1/2" Siamese connection and a single 4" Stortz connection. Connections must be a minimum of 36 inches from all obstructions. All connections shall be identified with a metal sign with raised letters at least one inch (1") in size and shall identify the type of system and recommended system pressures.

All sprinkler risers and standpipe systems shall have a low pressure switch on the system side of the check valve located so that a sixty percent (60%) drop in pressure at any location in the system causes an alarm activation. Low-pressure switches located at the alarm valve may not meet this requirement.

All sprinkler and standpipe systems shall have alarm initiating retarded water flow devices.

All vane flow switches shall have a zero (0) to sixty (60) second retard device set to forty five (45) seconds.

Each sprinkler riser shall be provided with a listed indicating valve in an accessible location.

There shall be no shut off valves on alarm devices.

Each floor shall be zoned separately with a valve to control water flow to the individual zone. Each zone shall include an inspectors test valve connected to an appropriately sized orifice discharging to the exterior of the building or an approved drain. No hose connections shall be allowed.

All valves in the sprinkler system shall have permanent tags indicating the purpose of the device. All valves installed in the system shall be supervised.

If suppression or control valves are located in a separate or concealed space, a sign shall be provided on the entrance door or access panel to the concealed space. The sign shall be "RED" with "WHITE" lettering at least one (1) inch in height and shall read: "SPRINKLER CONTROL VALVE". All valves and controls shall be readily accessible.

A permanent legend and riser diagram must be placed at the main shut-off valve indicating the location of shut-off valves and inspectors test valves.

All areas of the building must be sprinklered, this includes bathrooms and closets. All sprinkler heads installed in electrical rooms and elevator control rooms shall be 212 degree rated.

All elevator control rooms shall be equipped with a shut off valve with tamper switch located outside of the room.

All fire pumps installed in the City of Manchester shall be installed in accordance with the provisions put forth in the most recent edition of NFPA 20. The operation and status of the building fire pump shall be supervised, on a separate alarm zone for pump running and power failure, including off normal position of the disconnect switch.

A test header shall be provided with all fire pump installations in the City of Manchester. All fire pump systems shall be provided with a test header (or hose valve) which is piped to the exterior of the structure. The site in the vicinity of the test header shall be designed to account for the drainage of water of not less than 150% of the maximum pump drainage capacity.

All standpipe systems installed in the City of Manchester shall be installed to meet the criteria put forth in the most recent edition of NFPA 14.

All standpipe systems must be installed to a minimum of five hundred gallons per minute ( 500 G.P.M.) for the first standpipe, plus two hundred fifty (250 G.P.M.) for each additional standpipe.

Standpipes shall have a one hundred (100) PSI @ 500 GPM residual rating at the top of the system.

All standpipe hose outlets shall have a 2 1/2" by 1 1/2" reducer with a cap and chain. The threads on these devices shall be congruent with those employed by the Manchester Fire Department.

#### **Supervision of Sprinkler Systems**

All sprinkler systems shall have a direct connection to the Manchester Fire Department or a Central Station approved by the Manchester Fire Department.

Each floor of a sprinklered building shall be zoned separately.

All water shut-off devices shall have tamper switches installed and wired to a stand alone system trouble zone which does not alarm the Fire Alarm Control Panel (FACP).

If the fire alarm zone circuit is used for tamper switch supervisory signals, the tamper switch(es) shall be wired electrically last.

#### **Testing and Inspection**

A test certificate for above ground and underground piping shall be presented to the Manchester Fire Department prior to inspection.

The inspectors test connections, main drain valves, and all control valves on the sprinkler system shall be operated at least once per year to insure that there is free water flow, adequate pressure, and that the supervisory service is operating properly. An internal inspection of the piping shall be performed periodically, but at least every ten (10) years to check for debris build up. If debris build up is discovered the system shall be flushed and internal inspections shall then be conducted at five (5) year intervals thereafter. Each dry pipe valve shall be cleaned and reset at least once each year. Automatic antifreeze solution systems and limited area systems that are supplied by a domestic water source and which are not required to provide a test line shall be exempt from the requirements of this section. Certification tags and seals shall be applied to the sprinkler system risers and fire pumps detailing the person or contractor conducting the test and the date of the test. All inspection reports shall be signed by a NICET Level III technician or higher.

All fire pumps that supply water to suppression systems and standpipes shall be operated once every thirty (30) days to insure that water is discharged freely from the relief valve and that the system is functional. A yearly test shall be performed in accordance with the criteria put forth in the most recent edition of NFPA 25. Where the suction supply is from public means, the test shall not draw the residual suction pressure at the pump below twenty (20) pounds per square inch (PSI).

The preceding rules and regulations will be in effect as of Monday, July 17, 2000. Any questions or comments regarding these rules may be directed to me at the Fire Prevention Bureau (603) 669-2256 x3404.

Yours in fire safety,

David Albin  
Deputy Chief